INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 2001	**Park:** Shenandoah NP
Principal Investigator: Dr Robin Jung	**Office Phone:** 301.497.5875 **Email:** robin_jung@usgs.gov
Address: USGS Patuxent Wildlife Research Center 12100 Beech Forest Rd. Laurel, MD 20708-4038 US	**Office Fax:** 301.497.5784
Additional investigators or key field assistants (first name, last name, office phone, office email): No co-investigators	
Permit#: SHEN-2001-SCI-0030	
Park-assigned Study Id. #: SHEN-00259	
Project Title: DOI-USGS AMPHIBIAN RESEARCH AND MONITORING INITIATIVE (ARMI) IN THE NORTHEAST	
Permit Start Date: Feb 01, 2001	**Permit Expiration Date** Dec 31, 2003
Study Start Date: Feb 01, 2001	**Study End Date** Dec 31, 2005
Study Status: Continuing	
Activity Type: Monitoring	
Subject/Discipline: Herpetology (Amphibians / Reptiles)	

Objectives:

SNP is one of the Index Sites for the DOI-USGS Amphibian and Research Monitoring Initiative (ARMI) in the Northeast Region. The goals of this long-term amphibian monitoring project at SNP are to:

1. Monitor pond, streamside and terrestrail amphibians

2. Estimate bias in and validate survey methodologies

3. Assess spatial and temporal variation in amphibian counts in relation to environmental variables

4. Assess health and disease status of amphibians at SNP

5. Provide amphibian and reptile distribution map data to SNP

6. Conduct population monitoring and conservation genetics work on the federally endangered Shenandoah salamander (Plethodon shenandoah)

Findings and Status:

An Excel spreadsheet showing survey method, date, latitude/longitude coordinates, species, age class, and counts of adults, larvae and egg massses was provided to Shenandoah National Park. In 2001, we conducted egg mass and visual encounter surveys at 3 vernal pools in Shenandoah National Park. Below is a general summary of species observed at each pool.

Big Meadows: wood frog, American toad, spring peeper

Hogcamp Swamp: wood frog, Jefferson salamander, spring peeper, American toad

Pond Ridge: Fowler's toad, wood frog, green frog, red-spotted newt

We surveyed 9 streams in 2001 using two 15 x 2 m transects (15 m long spanning 1 m on the stream bank and 1 m in the stream channel) and two 4 m2 quadrats (spanning 2 m on the bank and 2 m in the channel) at each stream. Two to three removal passes were conducted on both transects. Below is a general summary of species observed at each stream.

Control stream: northern two-lined salamander, northern dusky salamander, northern red salamander, seal salamander

Piney River 003: seal salamander, northern two-lined salamander

Paine Run 123: northern dusky salamander, seal salamander, northern two-lined salamander, northern spring salamander, northern cricket frog, green frog

Jeremy's Run (SRP 10): northern two-lined salamander, northern dusky salamander, northern spring salamander, white-spotted slimy salamander

Devil's Staircase (SRP 28): seal salamander, northern two-lined salamander, northern dusky salamander, northern spring salamander

Doyle's River (SRP 35): seal salamander, northern two-lined salamander, northern dusky salamander, northern spring salamander

Hawksbill Creek Tributary (SRP 42): seal salamander, northern two-lined salamander, northern dusky salamander, northern spring salamander, northern water snake

Ivy Creek Tributary (SRP 71): seal salamander, northern two-lined salamander, northern dusky salamander, northern spring salamander

Staunton River: no salamanders

We conducted visual encounter surveys turning over rocks and logs during the day at 24 terrestrial plots (15 m2) for terrestrial salamanders. Burn plots are located at Pumpkin Hill where prescribed burns occurred on 3 April 1999 and 9 April 2001. Control plots are located in Shenks Hollow. Other terrestrial plots are located at Fisher's Gap, Pocosin Hollow, and Tanner's Ridge.

Burn 2: red-backed salamander,

Burn 3: red-backed salamander

Burn 4: red-backed salamander

Burn 5: red-backed salamander

Burn 6: red-backed salamander

Control 2: red-backed salamander, white-spotted slimy salamander

Control 3: red-backed salamander

Control 4: red-backed salamander, American toad

Control 5: red-backed salamander, white-spotted slimy salamander, red-spotted newt

Control 6: red-backed salamander

Fisher 1: red-backed salamander

Fisher 2: red-backed salamander

Fisher 3: ring-necked snake

Fisher 4: red-backed salamander

Fisher 5: red-backed salamander

Fisher 6: red-backed salamander

Pocosin 1: red-backed salamander

Pocosin 2: red-backed salamander

Pocosin 3: red-backed salamander, red-spotted newt

Pocosin 4: red-backed salamander, white-spotted slimy salamander

Pocosin 5: red-backed salamander

Pocosin 6: red-backed salamander

Tanner 2: red-backed salamander

Tanner 3: red-backed salamander

For this study, were one or more specimens collected and removed from the park but not destroyed during analyses?

No

Funding provided this reporting year by NPS:	**Funding provided this reporting year by other sources:**
0	5000

Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college

Full name of college or university:	**Annual funding provided by NPS to university or college this reporting year:**
n/a	0